

APPENDIX D

CONVEYANCE ALIGNMENTS, STRUCTURES, AND FACILITIES

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Figure D-1 Ocean Disposal Alternative

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Table D-1
Point Estero Drainage Aqueduct

Item	Feature	Subfeature	Feature Length (miles)	Subfeature Length (miles)	Outlet Elevation (feet)	Inlet Elevation (feet)
1	Point Estero outfall	Diffuser	1.44		-200	
2		Suspended pipeline		0.71		
3		Buried pipeline		0.73		
4	Cottontail pipeline		11.35		0	1,278
5	Santa Lucia tunnel		0.50		1,278	1,280
6	Santa Rita siphon		1.11		1,280	1,318
7	Santa Rita tunnel		0.33		1,318	1,320
	Paso Robles pipeline		43.22		1,320	1,845
8		Reach 1				
9		PPPR1 1				
10		Reach 2				
11	Bluestone tunnel		1.23		1,845	1,850
	Kettleman City pipeline		46.13		1,850	225
12		Reach 1		0.93		
13		PP K1			1,425	
14		Reach 2		2.40		
15		PP K2			1,000	
16		Reach 3		6.8		
17		PP K3			600	
18		Reach 4		5.5		
19		PP K4			400	
20		Reach 5		10.50		
21		PP K5			300	
22				20.00		
23	Westlands South reuse pumping plant				225	
24	Westlands Central-South pipeline		31.67			
25	Westlands Central reuse pumping plant				185	
26	Westlands North-Central pipeline		22.90			
27	Westlands North reuse pumping plant				170	
28	Northerly Area pipeline		18.40			
29	Northerly Area reuse pumping plant				134	

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Figure D-2 Delta Disposal Alternatives

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Table D-2
Key Components of the Delta-Chipps Island Disposal Alternative

Component	Length (miles)	Conveyance Component
Westland South Reuse Facility to southern terminus of existing San Luis Drain	14.5	Canal
Existing San Luis Drain from southern terminus to Northern Areas Reuse Facility Collector		56 miles of existing canal
Northern Areas Reuse Facility to Existing San Luis Drain	2.1	Pipeline
Existing San Luis Drain from Collector to its terminus in Kesterson National Wildlife Refuge		27 miles of existing canal
Terminus of existing San Luis Drain to Hills Ferry (through Wildlife Refuge)	8.6	Pipeline (Low Head)
Hills Ferry to Pump Station at San Joaquin River Club	30.5	Canal or Pipeline (Low Head)
Pump Station at San Joaquin River Club to Hansen/Byron Bethany Road west of Tracy	16.0	Pipeline (High Pressure)
Hansen/Bethany west of Tracy to Brentwood Pump Station ¹	15.1	Canal or Pipeline (Low Head)
Brentwood Pump Station to Willow Pass Road @ PG&E Pumping Plant (west of Pittsburg)	18.3	Pipeline (High Pressure)
Willow Pass Road @ PG&E Pumping Plant (west of Pittsburg) to shoreline (Mallard Slough)	1.5	Pipeline (High Pressure)
Shoreline Mallard Slough to diffuser south of Chipps Island	1.0	Offshore Pipeline (High Pressure)
Total Length (new construction)	107.6	
Total Length (including existing San Luis Drain)	190.6	

Note:

¹A 60-inch-diameter low-head pipeline was considered as an alternative to the open channel in these segments. However, the channel was the most cost-effective option and was selected.

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Table D-3
Key Components of the Delta-Carquinez Strait Disposal Alternative

Component	Length (miles)	Conveyance Component
Westlands South Reuse Facility to southern terminus of existing San Luis Drain	14.5	Canal
Existing San Luis Drain from southern terminus to Northern Areas Reuse Facility Collector		56 miles of existing canal
Northern Areas Reuse Facility to Existing San Luis Drain	2.1	Pipeline
Existing San Luis Drain from Collector to its terminus in Kesterson National Wildlife Refuge		27 miles of existing canal
Terminus of existing San Luis Drain to Hills Ferry (through Wildlife Refuge)	8.6	Pipeline (Low Head)
Hills Ferry to Pump Station at San Joaquin River Club	30.5	Canal or Pipeline (Low Head)
Pump Station at San Joaquin River Club to Hansen/Byron Bethany Road west of Tracy	16.0	Pipeline (High Pressure)
Hansen/Bethany west of Tracy to Brentwood Pump Station ¹	15.1	Canal or Pipeline (Low Head)
Brentwood Pump Station to Willow Pass Road @ PG&E Pumping Plant (west of Pittsburg)	18.3	Pipeline (High Pressure)
Willow Pass Road @ PG&E Pumping Plant (west of Pittsburg) to Crockett	18.9	Pipeline (High Pressure)
Crockett shoreline to diffuser in Carquinez Strait	1.0	Offshore Pipeline (High Pressure)
Total Length (new construction)	125.0	
Total Length (including existing San Luis Drain)	208.0	

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Figure D-3 In-Valley Disposal Alternative

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Table D-4
Key Components the In-Valley Conveyance Segments

Pipeline Segment	Length (miles)	Diameter (inches)	Capacity (cfs)
Northerly Area reuse facility to Westlands North reuse facility	18.0	24	13
Westlands North reuse facility to northern treatment/evaporation facility	13.4	30	23
Westlands Central reuse facility to southern treatment/evaporation facility	17.6	24	10
Westlands South reuse facility to southern treatment/evaporation facility	15.2	20	8
Total Length	64.2		